

PATENTREMARKS

Claims 1-39 are currently pending in the application and stand rejected. No amendments to the claims are proposed herein, and Applicant respectfully requests reconsideration of the application in view of the remarks set forth below.

Reconsideration of Restriction Requirement

The Examiner has indicated that, upon reconsideration, the Restriction Requirement of January 29, 2002, has been withdrawn. Office Action, at page 2. The Applicant's undersigned attorney thanks the Examiner for his reconsideration of the requirement for restriction.

Anticipation Rejections Under 35 U.S.C. § 102

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

Anticipation Rejection Based on United States Patent 6,273,730 to Chang

Claims 1-2, 5-8, and 33 were rejected under 35 U.S.C. § 102(e) as being anticipated by United States Patent 6,273,730 to Chang (hereinafter "the Chang patent"). Applicant respectfully traverses this rejection as set forth below.

Independent claim 1 recites an apparatus including the limitations of a "mounting portion to route at least one signal line from a first card connector on a circuit board to a first card connector on the mounting portion" and a "routing portion to route at least one signal line from a second card connector on the circuit board to the mounting portion, the mounting portion to route the at least one signal line of the second card connector on the circuit board to a second card connector on the mounting portion." Independent claim 33 recites similar limitations in a means-plus-function format.

The Chang patent discloses a computer housing 10 including a motherboard 20 disposed therein, the motherboard 20 having a plurality of insert slots 22 located thereon.

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Column 1, Lines 64-66 through Column 2, Lines 1-5. Each of the insert slots 22 may receive a connecting element 30, the connecting elements 30 (when inserted in slots 22) being connected "in series in a stepped arrangement." Column 2, Lines 5-8. The connecting elements 30 – each of which comprises a circuit board 31 having at least one connecting slot 33 disposed perpendicularly thereon – may be "connected in series" by links 32. Column 2, Lines 8-10. One of the connecting elements 30 – i.e., the highest of the connecting elements 30 connected together in a stepped, series arrangement (see FIGS. 1 and 2) – is connected to a horizontal bar 11 by bolts 40 extending within through-holes 34 in that connecting element 30. Column 2, Lines 11-21. A mainboard 50 may be inserted in the connecting slot 33 of each connecting element 30. Column 2, Lines 29-30. The horizontal bar 11 in conjunction with the links 32 enhances the stability of the connecting elements 30 and mainboards 50 and prevents these components from shaking. Column 1, Lines 47-48; Column 2, Lines 21-23.

The Chang patent does not, however, teach a "routing portion to route at least one signal line from a second card connector on the circuit board to the mounting portion" wherein the mounting portion can "route the at least one signal line of the second card connector on the circuit board to a second card connector on the mounting portion." It appears, however, that the Examiner is equating one of the connecting elements 30 to the claimed mounting portion, whereas the Examiner is equating another one of the connecting elements 30 in combination with the links 32 to the claimed routing portion. Office Action, at page 3.

It is respectfully pointed out that the links 32 are not described as having the ability to route a signal (whether electrical, optical, or other signal), and there is nothing in the Chang patent that suggests the contrary. Rather, the Chang patent teaches that the links 32 in conjunction with the horizontal bar 11 are provided to maintain the connecting elements in a stepped, series arrangement with enhanced stability and minimal shaking – i.e., the links 32 simply provide a mechanical connection. Further, there is no need for the links 32 to provide an electrical or optical connection between two connecting elements 30, as each of the connecting elements 30 is mounted in a mating insert slot 22 on motherboard 20 and has a connecting slot 33 for receiving a mainboard 50. In other words, each of the connecting elements 30 can route signals from its mating insert slot 22

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(on motherboard 20) to its connecting slot 33 and attached mainboard 50 and, accordingly, there is not a need for direct communication between any two connecting elements 30.

It is also respectfully noted that a connecting element 30 of the Chang apparatus (which the Examiner appears to be equating to the claimed mounting portion) is coupled with only one insert slot 22 on the motherboard 20. Therefore, the connecting element 30 would not route a signal from an adjacent insert slot 22 on motherboard 20 to a connection slot 33 on that connecting element. As noted above, the claimed mounting portion can "route the at least one signal line of the second card connector on the circuit board."

Thus, the Chang patent fails to teach at least the limitations of a "routing portion to route at least one signal line from a second card connector on the circuit board to the mounting portion, the mounting portion to route the at least one signal line of the second card connector on the circuit board to a second card connector on the mounting portion" (re: claim 1) or a "second routing means for routing at least one signal line from a second card connector on the circuit board to the first routing means, the first routing means to route the at least one signal line of the second card connector on the circuit board to a second card connector disposed on the first routing means" (re: claim 33). Accordingly, each of independent claims 1 and 33 is novel in view of the Chang patent. Further, claims 2, 5, 6, 7, and 8 are allowable as depending from novel, independent claim 1.

Anticipation Rejection Based on United States Patent 6,046,912 to Leman

Claims 9-11, 13, 21-23, and 25 were rejected under 35 U.S.C. § 102(e) as being anticipated by United States Patent 6,046,912 to Leman (hereinafter "the Leman patent"). Applicant respectfully traverses this rejection as set forth below.

Independent claim 9 recites, in part, a "mounting portion secured in the first card connector on the circuit board, the mounting portion to couple the at least one signal line of the first card connector on the circuit board to a first card connector disposed on the mounting portion" and a "routing portion secured in the second card connector on the circuit board, the routing portion to couple the at least one signal line of the

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second card connector on the circuit board to the mounting portion, the mounting portion to couple the at least one signal line of the second card connector on the circuit board to a second card connector disposed on the mounting portion.”

Independent claim 21 recites similar limitations in part.

The Leman patent discloses a motherboard 300 having an attached riser board 304. Column 2, Lines 43-45; FIG. 3. An adapter 302 couples a PCI bus on motherboard 300 to a PCI bus on riser board 304, the adapter 302 coupled between a PCI connector 306 on motherboard 300 and a connector 308 on riser board 304. Column 2, Lines 44-48. The riser board provides one or more connectors 310 for receiving PCI add-in cards oriented substantially parallel to the motherboard 300. Column 2, Lines 48-52. In “another embodiment” of the Leman patent, a riser board 500 is directly connected to the PCI slot 306 on motherboard 300, and an adapter (e.g., adapter 302 of FIG. 3) is not necessary. Column 3, Lines 15-18; FIG. 5. It appears the Examiner is equating the adapter 302 of FIG. 3 and the riser board 500 of FIG. 5 to the claimed routing portion and mounting portion, respectively, of each of claims 9 and 21. Office Action, at page 5.

In the embodiment of FIG. 3 of the Leman patent, the adapter 302 is inserted into the PCI slot 306, and the riser board 304 is mechanically attached to the motherboard 300. The riser board 304 is not inserted or otherwise coupled with a PCI slot on the motherboard 300 (see FIG. 3 and accompanying text). In the embodiment of FIG. 5, the riser board 500 is shown inserted into the PCI slot 306 on motherboard 300, and the embodiment of FIG. 5 does not include an adapter 302. Thus, for either of the embodiments of FIGS. 3 and 5, respectively, all signals to the riser board (304 or 500) are routed through a single PCI slot 306. The Leman patent does not, therefore, teach a mounting portion coupled with a first card connector on a circuit board that routes signals from that first card connector of the circuit board to a first card connector on the mounting portion itself and a routing portion coupled with a second card connector on the circuit board that routes signals from that second card connector of the circuit board to the mounting portion, which, in turn, routes those signals to a second card connector on the mounting portion.

It is respectfully pointed out that either embodiment (FIG. 3 or FIG. 5) of the Leman patent teaches one problem identified in the prior art that the present invention

attempts to overcome. More specifically, either embodiment of the Leman patent would require a customized motherboard to route all signals through the single PCI card slot 306 to which the adapter 302 of FIG. 3, or the riser board 500 of FIG. 5, is coupled. Avoiding the use of customized motherboards by eliminating the need for routing additional signals paths through a single card slot is one problem the present invention overcomes.

Specification, at paragraphs [0008] and [0024].

Therefore, the Leman patent does not teach at least the limitations of a "mounting portion secured in the first card connector on the circuit board, the mounting portion to couple the at least one signal line of the first card connector on the circuit board to a first card connector disposed on the mounting portion" and a "routing portion secured in the second card connector on the circuit board, the routing portion to couple the at least one signal line of the second card connector on the circuit board to the mounting portion, the mounting portion to couple the at least one signal line of the second card connector on the circuit board to a second card connector disposed on the mounting portion." Accordingly, each of independent claims 9 and 21 is novel in view of the Leman patent. Also, claims 10, 11, and 13 are allowable as depending from novel, independent claim 9. Similarly, claims 22, 23, and 25 are allowable as depending from novel, independent claim 21.

Obviousness Rejections Under 35 U.S.C. § 103

To reject a claim or claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a prima facie case of obviousness. M.P.E.P. § 2142. When establishing a prima facie case of obviousness, the Examiner must set forth evidence showing that the following three criteria are satisfied:

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references (or references when combined) must teach or suggest all the claim limitations.

M.P.E.P. § 2143.

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The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure. M.P.E.P. § 2142 (citing *In re Vaeck*, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991)). Also, the evidentiary showing of a motivation or suggestion to combine prior art references "must be clear and particular." *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999).

Obviousness Rejection Based on United States Patent 6,046,912 to Leman in View of United States Patent 6,273,730 to Chang

Claims 16-19 and 28-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Leman patent in view of the Chang patent. Applicant respectfully traverses this rejection as set forth below.

The respective teachings of the Leman and Chang patents are summarized above. As set forth above, the Leman patent does not teach all limitations of independent claims 9 and 21. Also, for the reasons set forth above with respect to independent claim 1, the Chang patent would also fail to teach all limitations of independent claims 9 and 21. Further, the combined teachings of the Leman and Chang patents fail to teach all limitations of claims 9 and 21, respectively. Accordingly, a prima facie case of obviousness can not be made out for each of independent claims 9 and 21 based upon the Leman and Chang patents, either individually or in combination. Thus, each of claims 9 and 21 is nonobvious in view of the Leman and Chang patents.

If an independent claim is nonobvious, then any claim depending from the independent claim is also nonobvious. M.P.E.P. §2143.03 (citing *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988)). Therefore, claims 16-19 and 28-31 are allowable as depending from nonobvious, independent claims 9 and 21, respectively.

Rejection of Claims 36-39

The Examiner has rejected claims 36-39, stating that the "methods disclosed therein are deemed as inherent in the assembly of the claimed apparatus of the preceding claims as fully met by the accompanying references, (Leman, Chang) and are subsequently rejected." Office Action, at page 10. It is unclear, however, upon which basis each of

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these claims is being rejected by the Examiner. For instance, the Applicant's undersigned attorney does not know the statutory bases (e.g., section 102 or 103) for the rejection of each claim.

It is respectfully pointed out that M.P.E.P. § 707.07(d) states:

Where a claim is refused for any reason relating to the merits thereof it should be "rejected" and the ground of rejection fully and clearly stated, and the word "reject" must be used. The examiner should designate the statutory basis for any ground of rejection by express reference to a section of 35 U.S.C. in the opening sentence of each ground of rejection.

* * * *

An omnibus rejection of the claim "on the references and for the reasons of record" is stereotyped and usually not informative and should therefore be avoided. This is especially true where certain claims have been rejected on one ground and other claims on another ground.

However, the Applicant believes that, for the reasons set forth above, each of claims 36-39 is allowable over the Chang and Leman patents, respectively, under 35 U.S.C. § 102. The Applicant further believes that each of claims 36-39 is allowable under 35 U.S.C. § 103 over the Chang and Leman patents, either individually or in combination.

Claim Objections - Allowable Subject Matter

Claims 3, 4, 12, 14, 15, 20, 24, 26, 27, 32, 34, and 35 were objected to as being dependent upon a rejected base claim, but each of these claims would be allowable if rewritten in independent form. Office Action, at page 10. As set forth above, each of independent claims 1, 9, 21, and 33 is patentable in view of the cited prior art. Thus, Applicant submits that each of claims 3, 4, 12, 14, 15, 20, 24, 26, 27, 32, 34, and 35 is patentable as written in dependent form.

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CONCLUSION

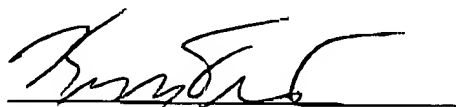
Applicant submits that claims 1-39 are in condition for allowance and respectfully requests allowance of such claims.

Please charge any shortages and credit any overages to our Deposit Account No. 02-2666.

Respectfully submitted,

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